Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in this application:

Listing of Claims:

Claim 1 (Original): A hydroxide containing double metal cyanide (DMC) catalyst of the formulae (I) or (II),

$$M^1_x[M^2(CN)_6]_yOH \bullet L \qquad (I)$$

$$M^1_x[M^2(CN)_6]_y{\cdot}zM^1(OH)_q \bullet L \qquad (II)$$

wherein

M^1 represents a metal selected from the group consisting of Zn^{+2}, Fe^{+2}, Ni^{+2}, Mn^{+2}, Co^{+2}, Sn^{+2}, Pb^{+2}, Fe^{+3}, Mo^{+4}, Mo^{+6}, Al^{+3}, V^{+4}, V^{+5}, Sr^{+2}, W^{+4}, W^{+6}, Cu^{+2} and Cr^{+3},

M^2 represents a metal selected from the group consisting of Fe^{+2}, Fe^{+3}, Co^{+2}, Co^{+3}, Cr^{+2}, Cr^{+3}, Mn^{+2}, Mn^{+3}, Ir^{+3}, Ni^{+2}, Rh^{+3}, Ru^{+2}, V^{+4} and V^{+5},

L represents an organic ligand,

x, y, and q are chosen to maintain electroneutrality, and

wherein the catalyst is crystalline.

Claim 2 (Original): The hydroxide containing double metal cyanide (DMC) catalyst according to Claim 1, wherein the organic ligand, L, is selected from the group consisting of alcohols, polyols, polyether polyols, aldehydes, ketones, ethers, esters, amides, ureas, nitriles, sulfides and mixtures thereof.

Claim 3 (Original): The hydroxide containing double metal cyanide (DMC) catalyst according to Claim 1, wherein the organic ligand, L, is selected from the group consisting of ethanol, isopropanol, n-butanol, isobutanol, sec-butanol and tert-butanol.

Claim 4 (Original): The hydroxide containing double metal cyanide (DMC) catalyst according to Claim 1, wherein the organic ligand, L, is tert-butanol.

Claim 5 (Original): The hydroxide containing double metal cyanide (DMC) catalyst according to Claim 1, wherein M represents Zn^{+2} and M^2 represents Co^{+3}.

Claim 6 (Original): A process of making a hydroxide containing double metal cyanide (DMC) catalyst of the formulae (I) or (II),

$$M^1_x[M^2(CN)_6]_yOH \bullet L \qquad (I)$$

$$M^1_x[M^2(CN)_6]_y \cdot zM^1(OH)_q \bullet L \qquad (II)$$

said process comprising the steps of:

reacting a M^1 containing oxide with a M^2 containing hexacyanometallate or hexacyanometallic acid in the presence of an organic ligand, L, and water; and

collecting the crystalline catalyst,

wherein

M^1 represents a metal selected from the group consisting of Zn^{+2}, Fe^{+2}, Ni^{+2}, Mn^{+2}, Co^{+2}, Sn^{+2}, Pb^{+2}, Fe^{+3}, Mo^{+4}, Mo^{+6}, Al^{+3}, V^{+4}, V^{+5}, Sr^{+2}, W^{+4}, W^{+6}, Cu^{+2} and Cr^{+3},

M^2 represents a metal selected from the group consisting of Fe^{+2}, Fe^{+3}, Co^{+2}, Co^{+3}, Cr^{+2}, Cr^{+3}, Mn^{+2}, Mn^{+3}, Ir^{+3}, Ni^{+2}, Rh^{+3}, Ru^{+2}, V^{+4} and V^{+5},

L represents an organic ligand, and

X, y and q are chosen to maintain electroneutrality.

Claim 7 (Original): The process according to Claim 6, wherein the organic ligand, L, is selected from the group consisting of alcohols, polyols, polyether polyols, aldehydes, ketones, ethers, esters, amides, ureas, nitriles, sulfides and mixtures thereof.

Claim 8 (Original): The process according to Claim 6, wherein the organic ligand, L, is selected from the group consisting of ethanol, isopropanol, n-butanol, isobutanol, sec-butanol and tert-butanol.

Claim 9 (Original): The process according to Claim 6, wherein the organic ligand, L, is tert-butanol.

Claim 10 (Original): The process according to Claim 6, wherein M^1 represents Zn^{+2} and M^2 represents Co^{+3}.

Claim 11 (Original): A hydroxide containing double metal cyanide (DMC) catalyst of the formulae (I) or (II),

$$M^1_x[M^2(CN)_6]_yOH \bullet L \qquad (I)$$

$$M^1_x[M^2(CN)_6]_y \cdot zM^1(OH)_q \bullet L \qquad (II)$$

made by:

reacting a M^1 containing oxide with a M^2 containing hexacyanometallate or hexacyanometallic acid in the presence of an organic complexing ligand, L, and water; and

collecting the crystalline catalyst,

wherein

M^1 represents a metal selected from the group consisting of Zn^{+2}, Fe^{+2}, Ni^{+2}, Mn^{+2}, Co^{+2}, Sn^{+2}, Pb^{+2}, Fe^{+3}, Mo^{+4}, Mo^{+6}, Al^{+3}, V^{+4}, V^{+5}, Sr^{+2}, W^{+4}, W^{+6}, Cu^{+2} and Cr^{+3},

M^2 represents a metal selected from the group consisting of Fe^{+2}, Fe^{+3}, Co^{+2}, Co^{+3}, Cr^{+2}, Cr^{+3}, Mn^{+2}, Mn^{+3}, Ir^{+3}, Ni^{+2}, Rh^{+3}, Ru^{+2}, V^{+4} and V^{+5},

L represents an organic ligand, and

x, y and q are chosen to maintain electroneutrality.

Claim 12 (Original): A process of making a hydroxide containing double metal cyanide (DMC) catalyst of the formulae (I) or (II),

$$M^1_x[M^2(CN)_6]_yOH \bullet L \qquad (I)$$

$$M^1_x[M^2(CN)_6]_y \cdot zM^1(OH)_q \bullet L \qquad (II)$$

said process comprising the steps of:

reacting a M^1 containing salt of a strong acid with a M^2 containing hexacyanometallate or hexacyanometallic acid in the presence of an organic ligand, L, and water; and

collecting the crystalline catalyst

wherein

M^1 represents a metal selected from the group consisting of Zn^{+2}, Fe^{+2}, Ni^{+2}, Mn^{+2}, Co^{+2}, Sn^{+2}, Pb^{+2}, Fe^{+3}, Mo^{+4}, Mo^{+6}, Al^{+3}, V^{+4}, V^{+5}, Sr^{+2}, W^{+4}, W^{+6}, Cu^{+2} and Cr^{+3},

M^2 represents a metal selected from the group consisting of Fe^{+2}, Fe^{+3}, Co^{+2}, Co^{+3}, Cr^{+2}, Cr^{+3}, Mn^{+2}, Mn^{+3}, Ir^{+3}, Ni^{+2}, Rh^{+3}, Ru^{+2}, V^{+4} and V^{+5},

L represents an organic ligand, and

x, y and q are chosen to maintain electroneutrality.

Claim 13 (Original): The process according to Claim 12, wherein the organic ligand, L, is selected from the group consisting of alcohols, polyols, polyether polyols, aldehydes, ketones, ethers, esters, amides, ureas, nitriles, sulfides and mixtures thereof.

Claim 14 (Original): The process according to Claim 12, wherein the organic ligand, L, is selected from the group consisting of ethanol, isopropanol, n-butanol, isobutanol, sec-butanol and tert-butanol.

Claim 15 (Original): The process according to Claim 12, wherein the organic ligand, L, is tert-butanol.

Claim 16 (Original): The process according to Claim 12, wherein M^1 represents Zn^{+2} and M^2 represents Co^{+3}.

Claim 17 (Original): The process according to Claim 12, wherein the strong acid is selected from sulfuric, sulfonic and nitrous acid.

Claim 18 (Original): A hydroxide containing double metal cyanide (DMC) catalyst of the formulae (I) or (II),

$$M^1_x[M^2(CN)_6]_yOH \bullet L \qquad (I)$$

$$M^1_x[M^2(CN)_6]_y \cdot zM^1(OH)_q \bullet L \qquad (II)$$

made by:

reacting a M^1 containing salt of a strong acid with a M^2 containing hexacyanometallate or hexacyanometallic acid in the presence of an organic ligand, L, and water; and

collecting the crystalline catalyst

wherein

M^1 represents a metal selected from the group consisting of Zn^{+2}, Fe^{+2}, Ni^{+2}, Mn^{+2}, Co^{+2}, Sn^{+2}, Pb^{+2}, Fe^{+3}, Mo^{+4}, Mo^{+6}, Al^{+3}, V^{+4}, V^{+5}, Sr^{+2}, W^{+4}, W^{+6}, Cu^{+2} and Cr^{+3},

M^2 represents a metal selected from the group consisting of Fe^{+2}, Fe^{+3}, Co^{+2}, Co^{+3}, Cr^{+2}, Cr^{+3}, Mn^{+2}, Mn^{+3}, Ir^{+3}, Ni^{+2}, Rh^{+3}, Ru^{+2}, V^{+4} and V^{+5},

L represents an organic ligand, and

x, y and q are chosen to maintain electroneutrality.

Claim 19 (Original): A process of making a hydroxide containing double metal cyanide (DMC) catalyst of the formulae (I) or (II),

$$M^1_x[M^2(CN)_6]_yOH \bullet L \qquad (I)$$

$$M^1_x[M^2(CN)_6]_y \cdot zM^1(OH)_q \bullet L \qquad (II)$$

said process comprising the steps of:

reacting a M^1 containing oxide and a M^1 containing salt with a M^2 containing hexacyanometallate or hexacyanometallic acid in the presence of an organic ligand, L, and water; and

collecting the crystalline catalyst,

wherein

M^1 represents a metal selected from the group consisting of Zn^{+2}, Fe^{+2}, Ni^{+2}, Mn^{+2}, Co^{+2}, Sn^{+2}, Pb^{+2}, Fe^{+3}, Mo^{+4}, Mo^{+6}, Al^{+3}, V^{+4}, V^{+5}, Sr^{+2}, W^{+4}, W^{+6}, Cu^{+2} and Cr^{+3},

M^2 represents a metal selected from the group consisting of Fe^{+2}, Fe^{+3}, Co^{+2}, Co^{+3}, Cr^{+2}, Cr^{+3}, Mn^{+2}, Mn^{+3}, Ir^{+3}, Ni^{+2}, Rh^{+3}, Ru^{+2}, V^{+4} and V^{+5},

L represents an organic ligand, and

x, y and q are chosen to maintain electroneutrality.

Claim 20 (Original): The process according to Claim 19, wherein the organic ligand, L, is selected from the group consisting of alcohols, polyols, polyethers, aldehydes, ketones, ethers, esters, amides, ureas, nitriles, sulfides and mixtures thereof.

Claim 21 (Original): The process according to Claim 19, wherein the organic ligand, L, is selected from the group consisting of ethanol, isopropanol, n-butanol, isobutanol, sec-butanol and tert-butanol.

Claim 22 (Original): The process according to Claim 19, wherein the organic ligand, L, is tert-butanol.

Claim 23 (Original): The process according to Claim 19, wherein M^1 represents Zn^{+2} and M^2 represents Co^{+3}.

Claim 24 (Original): The process according to Claim 19, wherein the M^1 containing salt contains an anion selected from halides, sulfates, carbonates, cyanides, oxalates, thiocyanates, isocyanates, isothiocyanates, carboxylates and nitrates.

Claim 25 (Original): A hydroxide containing double metal cyanide (DMC) catalyst of the formulae (I) or (II),

$$M^1_x[M^2(CN)_6]_yOH \bullet L \qquad (I)$$

$$M^1_x[M^2(CN)_6]_y \cdot zM^1(OH)_q \bullet L \qquad (II)$$

made by:

reacting a M^1 containing oxide and a M^1 containing salt with a M^2 containing hexacyanometallate or hexacyanometallic acid in the presence of an organic ligand, L, and water; and

collecting the catalyst,

wherein

M^1 represents a metal selected from the group consisting of Zn^{+2}, Fe^{+2}, Ni^{+2}, Mn^{+2}, Co^{+2}, Sn^{+2}, Pb^{+2}, Fe^{+3}, Mo^{+4}, Mo^{+6}, Al^{+3}, V^{+4}, V^{+5}, Sr^{+2}, W^{+4}, W^{+6}, Cu^{+2} and Cr^{+3},

M^2 represents a metal selected from the group consisting of Fe^{+2}, Fe^{+3}, Co^{+2}, Co^{+3}, Cr^{+2}, Cr^{+3}, Mn^{+2}, Mn^{+3}, Ir^{+3}, Ni^{+2}, Rh^{+3}, Ru^{+2}, V^{+4} and V^{+5},

L represents an organic ligand, and

x, y and q are chosen to maintain electroneutrality.

Claims 26-31 (Cancelled).

Claim 32 (Original): A process of making a hydroxide containing double metal cyanide (DMC) catalyst of the formulae (I) or (II),

$$M^1_x[M^2(CN)_6]_yOH \bullet L \qquad (I)$$

$$M^1_x[M^2(CN)_6]_y \cdot zM^1(OH)_q \bullet L \qquad (II)$$

said process comprising the steps of:

mixing a M^1 containing salt, a strongly basic compound with a M^2 containing hexacyanometallate or hexacyanometallic acid in the presence of an organic ligand, L, and water; and

collecting the catalyst

wherein

M^1 represents a metal selected from the group consisting of Zn^{+2}, Fe^{+2}, Ni^{+2}, Mn^{+2}, Co^{+2}, Sn^{+2}, Pb^{+2}, Fe^{+3}, Mo^{+4}, Mo^{+6}, Al^{+3}, V^{+4}, V^{+5}, Sr^{+2}, W^{+4}, W^{+6}, Cu^{+2} and Cr^{+3},

M^2 represents a metal selected from the group consisting of Fe^{+2}, Fe^{+3}, Co^{+2}, Co^{+3}, Cr^{+2}, Cr^{+3}, Mn^{+2}, Mn^{+3}, Ir^{+3}, Ni^{+2}, Rh^{+3}, Ru^{+2}, V^{+4} and V^{+5},

L represents an organic ligand, and

x, y and q are chosen to maintain electroneutrality.

Claim 33 (Original): The process according to Claim 32, wherein the strongly basic compound is selected from the group consisting of alkali metal hydroxides, alkaline earth metal hydroxides and amines.

Claim 34 (Original): The process according to Claim 32, wherein the organic ligand, L, is selected from the group consisting of alcohols, polyols, polyethers, aldehydes, ketones, ethers, esters, amides, ureas, nitriles, sulfides and mixtures thereof.

Claim 35 (Original): The process according to Claim 32, wherein the organic ligand, L, is selected from the group consisting of ethanol, isopropanol, n-butanol, isobutanol, sec-butanol and tert-butanol.

Claim 36 (Original): The process according to Claim 32, wherein the organic ligand, L, is tert-butanol.

Claim 37 (Original): The process according to Claim 32, wherein M^1 represents Zn^{+2} and M^2 represents Co^{+3}.

Claim 38 (Original): The process according to Claim 32, wherein the M^1 containing salt contains an anion selected from halides, sulfates, carbonates, cyanides, oxalates, thiocyanates, isocyanates, isothiocyanates, carboxylates and nitrates.